U. S. Department of Agriculture, Forest Service

FOREST PRODUCTS LABORATORY

In cooperation with the University of Wisconsin

MADISON, WISCONSIN

DURABILITY OF TREATED AND UNTREATED POSTS AND POLES

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DURABILITY OF TREATED AND UNTREATED POSTS AND POLES

The durability of untreated posts or poles of any species is influenced by a great variety of factors. Among the most important of these are the species and quality of wood used, climate, soil, drainage, ground cover, etc. Since different combinations of these factors will occur in different cases, the durability of a given species can not be expected to always be the same. Any estimates on the durability of post and pole timber must, therefore, be judged with considerable latitude.

In most species of timber the sapwood is very much less durable than the heartwood. The amount of sapwood present, therefore, is an important factor in the durability of untreated wood. Decayed heartwood, which is often found when the tree is cut, may be a factor in the durability of many species, though a small amount may not have much influence in cedar posts and poles.

Posts or poles which are set in very wet or very dry soils will last longer than those set in soils alternately wet and dry. Those set in cold climates are more durable than in warm ones. Summer cut timber should

be as durable as winter cut timber, provided it has been cared for properly after cutting. It is somewhat easier, however, to keep decay from getting into wood during the seasoning period if cut in winter than if cut in the summer.

There is little evidence that seasoning posts or poles which are to be set without treatment increases their durability. In fact, if the timber is held for over one year, deterioration will probably take place and the life will be shortened. Peeling posts or poles before placement is a very important factor, as those set with the bark on deteriorate more rapidly than those peeled before setting. Large posts or poles will last longer than small ones, as a rule, other conditions being equal. For this reason, in the case of fence posts, the large end should be set in the ground. They should preferably be cut with a bevel in the top to assist in shedding water.

The estimates given in the attached table can be considered as approximate only. Individual cases are liable to vary widely from these estimates due to the factors mentioned above.

When posts or poles have been given a preservative treatment, their durability will depend on the amount

kind, and quality of preservative used, the thoroughness of treatment, the kind of timber treated, and the condition of the timber at the time of treatment. Climate is also a factor, but is less important than with untreated posts. The estimates in the attached table are prepared on the basis of a butt treatment with creosote by the open-tank method, and in the case of fence posts an additional dip treatment of the tops with creosote. For methods of treating fence posts see Farmers' Bulletin 744, "The Preservative Treatment of Farm Timbers," which may be obtained free from the Division of Publications, U. S. Department of Agriculture, Washington, D. C. For poles see Forest Service Bulletin 84, "The Preservative Treatment of Poles." This may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C. for 15 cents, stamps not accepted.

Not for Publication

POLES

Estimated Average Life of Treated and Untreated Poles in the United States

(To be used only with explanation given in thie circular)

Species	Estimated Average Life	
	Untreated	Treated
	Years	Years
Redwood	12 to 15	20 or over*
Port Orford Cedar	"	"*
Cypress (heart)	"	"*
Northern white cedar	"	"*
Chestnut	"	"*
Western red cedar	"	"*
Tamarack	6 to 8	"*
Douglas fir	"	"*
Southern white cedar	"	"*
Longleaf pine (heartwood)	"	"*
Lodgepole pine	2 to 5	"*
Longleaf pine (sappy)	"	"**
Western yellow pine	"	"**
Loblolly pine	"	"**

*Estimate based on butt treatment with creosote by open tank method.

**Estimate based on creosote treatment (8 pounds per cu. ft.) for entire pole.

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